

What is claimed is:

- 1 1. A wireless signal transmission apparatus for use with a signal
2 source providing first frequency signals, the signal transmission apparatus
3 comprising:
4 a first transmitter adapted to be coupled to a signal source for
5 receiving first frequency signals, the first transmitter connected to an antenna;
6 a first oscillator in the first transmitter producing a high frequency
7 carrier signal;
8 means for combining the high frequency carrier signal with the first
9 frequency signals to form a first modulated signal transmitted by the antenna;
10 a first receiver remote from the first transmitter connected to an
11 antenna for receiving the first modulated signal; and
12 means coupled to the first receiver for converting the first modulated
13 signal from the high frequency carrier signal of the first transmitter to a second
14 modulated signal including a lower frequency carrier signal and the first frequency
15 signal.
- 1 2. The apparatus of claim 1 further comprising:
2 first selectable means, connected to the first oscillator, for generating
3 one of a plurality of discrete carrier frequencies of at least 900 MHz.
- 1 3. The apparatus of claim 2 wherein the first selectable means
2 comprises means for inputting one of a plurality of discrete voltages to the first
3 oscillator.
- 1 4. The apparatus of claim 2 further comprising:
2 means for modulating the first frequency signal with the selected
3 carrier frequency of the first oscillator to form the first modulated signal.
- 1 5. The apparatus of claim 1 wherein the lower frequency carrier
2 signal is the low end of the FM broadcast frequency band.

1 6. The apparatus of claim 5 wherein the converting means
2 converts the high frequency carrier signal of the first modulated signal to the lower
3 frequency carrier signal of the second modulated signal in two frequency conversion
4 steps.

1 7. The apparatus of claim 1 wherein the first receiver further
2 comprises:
3 a second oscillator coupled to the first receiver for converting the
4 carrier frequency of the first modulated signal to a lower frequency carrier signal;
5 frequency control means including:
6 means for generating an output upon detecting a first
7 frequency signal in the first modulated signal;
8 means, responsive to the output of the detecting means, for
9 generating a signal proportional to the center frequency of the converted
10 lower frequency carrier signal;
11 means, responsive to the signal proportional to the center
12 frequency, for determining one of a high or low status of the detected center
13 frequency relative to a nominal center frequency, the means generating an
14 output corresponding to the determined one of the high or low status of the
15 detected center frequency; and
16 a controller, responsive to the output for adjusting the
17 frequency of the second oscillator until the output of the detector means is
18 proportional to the nominal center frequency.

1 8. The apparatus of claim 7 further comprising:
2 a third oscillator coupled to the first transmitter for generating a pilot
3 carrier frequency signal;
4 means for modulating the pilot carrier frequency signal with the first
5 frequency signal and the high frequency carrier signal into the first modulated signal
6 for transmission by the first transmitter to the first receiver;

7 means, in the first receiver, for detecting the pilot carrier frequency
8 signal and generating an output upon detecting the pilot carrier frequency signal; and
9 the controller, in response to the absence of the pilot carrier frequency
10 signal, step-wise advancing the output frequency of the first oscillator until the pilot
11 carrier frequency signal is detected.

1 9. The apparatus of claim 8 further comprising:
2 a second oscillator coupled to the first receiver for converting the
3 carrier frequency of the first modulated signal to a lower frequency carrier signal.

1 10. The apparatus of claim 9 wherein the second selectable means
2 comprises:
3 means for selecting one of a plurality of crystals, each enabling the
4 second oscillator to oscillate at a discrete frequency.

1 11. The apparatus of claim 1 wherein the signal source comprises
2 a computer generated audio signal stream.

1 12. The apparatus of claim 1 wherein the signal source comprises
2 at least one of a CD player, RF audio receiver, AM/FM tuner, and AM/FM stereo
3 receiver.

1 13. The apparatus of claim 1 wherein the signal source comprises:
2 streaming media signals received through Internet communication
3 from a signal source by a central processor, including at least one of a sound
4 generator circuit coupled to the central processor for generating audio frequency
5 signals from a central processor output, and a video generator circuit coupled to the
6 central processor for generating video images from a central processor output.

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- 1 14. The apparatus of claim 1 further comprising:
2 recording means, coupled to the first receiver, for demodulating and
3 recording the first modulated signal transmitted by the first transmitter, the
4 demodulating and recording means further including means for outputting the stored
5 demodulated first frequency signal to the converting means for transmission by the
6 second transmitter.

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